AUSTRIA VIENNA 2024 IRSC INTERNATIONAL Railway Safety Council

17-21 Sept. 2024

Vienna, Austria
Aula der Wissenschaften

Applying Technologies to Improve Safety and Rail Market Share

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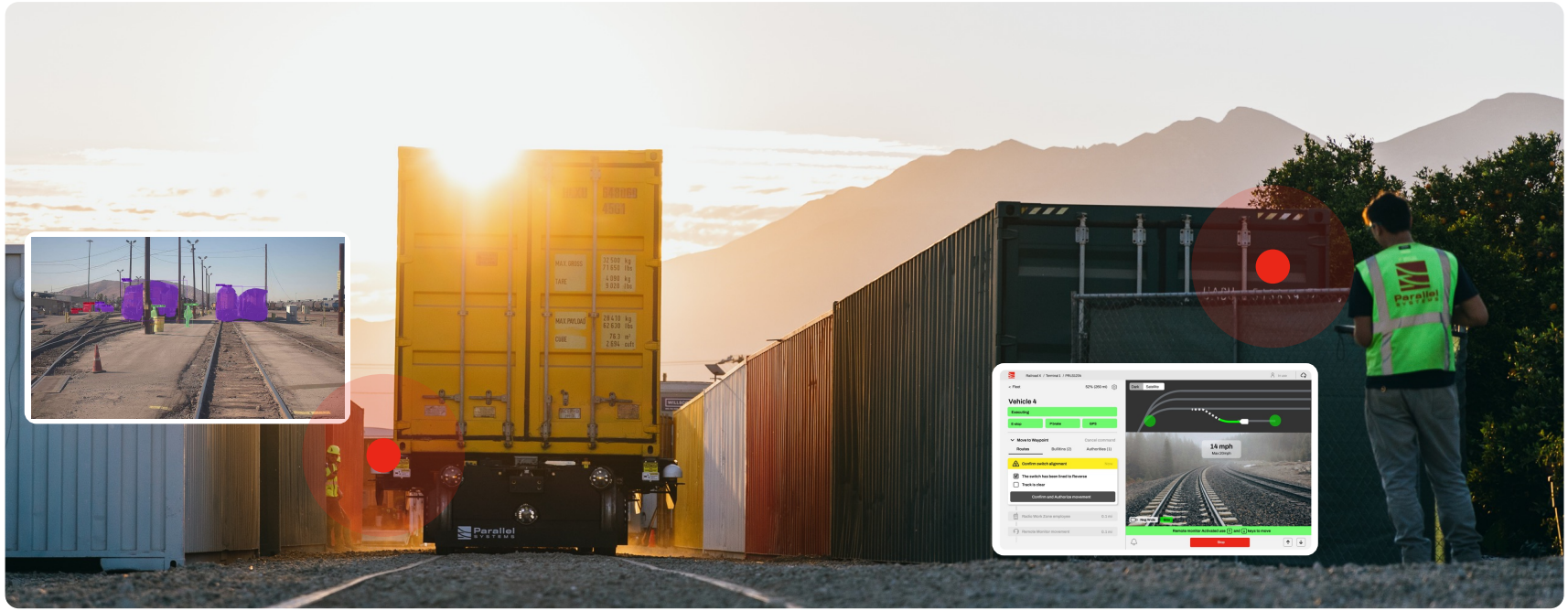
Using Technology for Rail Growth

Parallel‘s mission is to transform freight for climate and public benefit.



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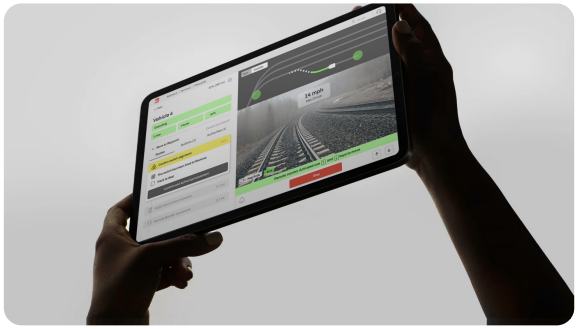
Product

Vehicles and Chargers

Autonomous battery electric vehicles and automatic charging equipment for existing infrastructure



Software

Onboard vehicle and backend software that integrate into existing controls and enterprise systems

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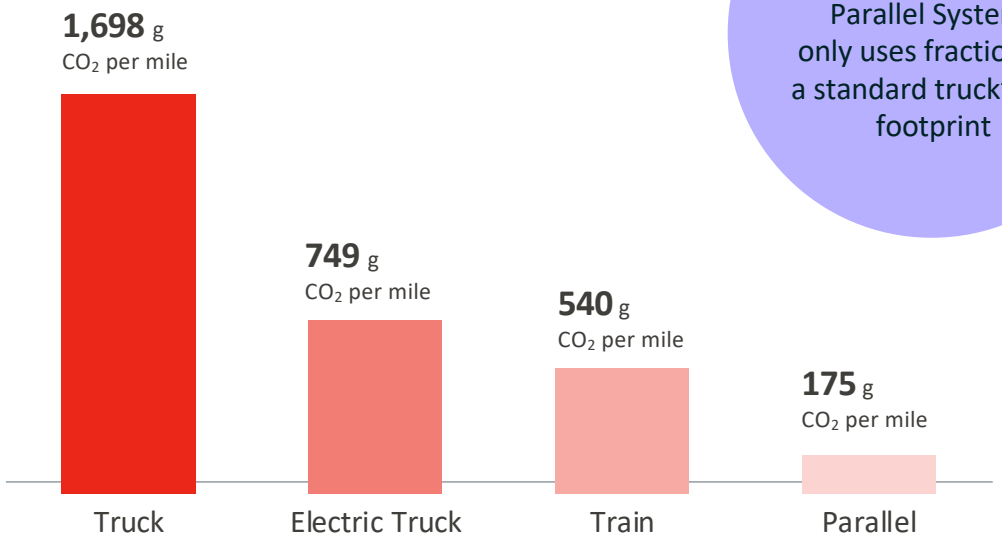
Quantifiying The Climate Impact



10%

Parallel Systems only uses fractions of a standard truck's CO_2 footprint

CO_2 is operating emissions are per shipping container and 62% of U.S. electricity is produced from fossil fuels (Source: U.S. EIA)
Shipping rates are based on the 400 mile shipping lane between Los Angeles and San Francisco

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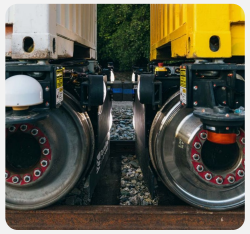
Layered Approach to Improved Safety

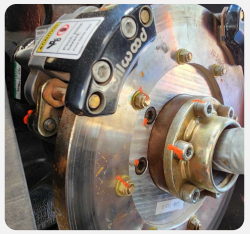
Modal Conversion

Converting trucking to rail is a 10x improvement in safety



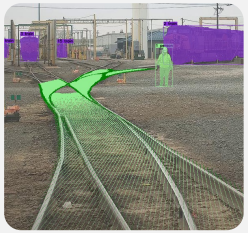
Contact Platooning

Remove people from the most hazardous work in the rail yard



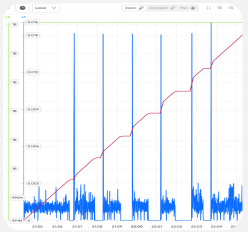
Improved Brakes

Adaptable braking force and automatic parking brake



Train Control + Perception

Deterministic safety combined with computer vision



Telemetry

On board sensors give real time and predictive insights for maintenance and safety

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Operational Advantages

Self classification and auto platoon assembly in action

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Example New Services

Parallel can replace long drays or open new intermodal service over shorter and lower density lanes

Annual container volume	11,600
Travel distance	7 miles / 11 km
Vehicles / chargers in service	5/1
Project capex	< $3M USD

Deployment Activities and Next Steps

Parallel is working with multiple railroads internationally and is looking forward to mainline testing programs in both the US and Australia in 2025.

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Thank you for your attention!